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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,315	10/25/2001	Seong Yong Kim	8111-009-999	2983
20583	7590	04/12/2005	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			ELMORE, REBA I	
			ART UNIT	PAPER NUMBER
			2187	

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/002,315	Applicant(s) KIM, SEONG YONG	
	Examiner Reba I. Elmore	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 1-10 and 12-13 are presented for examination.

Specification

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
3. The objection to the oath or declaration is *withdrawn*.
4. The objections to the disclosure for defining acronyms are *withdrawn* due to the amendment.
5. The objections to the specification have been *withdrawn* due to the substitute specification being entered.
6. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
- 7.

Claim Objections

8. The objection to claim 2 is *maintained* as the claim must end in a period.
Appropriate correction is required.

35 USC 112, 1st paragraph

9. The rejection of claims 1-11 under 35 USC 112, 1st paragraph is *withdrawn* due to the amendment.

35 USC 112, 2nd paragraph

10. Rejections of claims 1-11 under 35 USC 112, 2nd paragraph are *withdrawn* with the exception of the ones repeated below. A new rejection of claim 10 is now given due to the amendment.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-10 and 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following claim language is not clear or distinct:

it is not clear as to whether the memory module is part of the internal bus or connected to the internal bus in claim 1; and,

the compensation claimed in claim 9 is unclear.

13. Claim 10 is objected to as it is now unclear as to whether this claim depends on either previous claim 4 or claim 8.

Appropriate correction is required.

35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by

16. Gates teaches the invention (claim 1) as claimed including a system for addressing a data storage unit used in at least one of server and client computers, the system comprising:

means for converting a format of data on an external bus such that the data are accessed on an internal bus for use in the system as interface in the disk array controller (e.g., see Figure 4, element 60 and col. 5, lines 5-12);

a memory card module connected to the internal bus for storing data on the internal bus wherein the memory card module includes a plurality of memory modules each having a plurality of equally-sized memory blocks (e.g., see Figure 4-6 and col. 6, line 45 to col.7, line 15); and,

means for writing data on the internal bus to the memory module and reading out the data as the third interface (e.g., see Figure 4-6 and col. 6, line 45 to col.7, line 15).

As to claim 2, Gates teaches the internal bus is a PCI (Peripheral Component Interconnect) bus (e.g., see col. 5, lines 38-47).

As to claim 3, Gates teaches the external bus is a SCSI (Small Computer System Interface) bus (e.g., see col. 3, lines 2-61).

As to claim 4, Gates teaches the memory card module is composed of any one of SDRAM (Synchronous Dynamic Random Access Memory), Rambus DRAM, DDR (Double Data Rate) or other equivalent memories (e.g., see col. 3, lines 26-36).

As to claim 5, Gates teaches each of the plurality of equally-sized memory blocks is divided into a predetermined number of equally-sized sub-memories such that the memory module has a hierarchical memory configuration as memory utilizing a data length of 4 words (e.g., see Figure 6).

As to claim 6, Gates teaches the predetermined number is four (e.g., see Figure 6).

As to claim 7, Gates teaches signals inputted to the memory card module of the hierarchical memory configuration are compensated again at the memory module and memory block stages (e.g., see Figure 4-6 and col. 6, line 45 to col.7, line 15).

As to claim 8, Gates teaches the memory card module includes a PCI-to-memory controller, which is disposed between the internal bus and the memory module as a bridge, for controlling access to the plurality of sub-memories (e.g., see Figure 4-6 and col. 6, line 45 to col.7, line 15).

35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 9-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gates et al. in view of Kamijo et al.

19. Gates teaches the independent and intervening claims as given above, however, details pertaining to the interaction of the different buses to the other components of the system have not been specifically taught.

As to claim 9, Kamijo teaches a clock delay required for compensating the signals in the hierarchical memory configuration is compensated at the PCI-to-memory controller as there being a timing difference between the PCI bus and the CPU (e.g., see col. 14, lines 30-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the teachings of Kamijo with the teachings of Gates because both references are directed toward computer systems which have multiple bus structures with the buses uses different protocols.

As to claim 10, Kamijo teaches the PCI-to-memory controller activates any of the plurality of sub-memories to be actually accessed and maintains the remaining sub-memories in a low power mode as the reference teaching the invention being used in a portable or notebook type of computer (e.g., see Figure 1 and col. 13, lines 10-48). Portable computers such as laptops and notebooks have a low power mode to slow down the draining of the battery when the computer is on but has not been accessed for several minutes. The feature is well known in the memory arts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kamijo with the teachings of Gates because both references are directed toward computer systems which have multiple bus structures with the buses uses different protocols.

As to claim 12, Gates teaches the PCI-to-memory controller includes:

a PCI interface controlling unit for performing a standard PCI command, control and data signal processing (e.g., see col. 5, lines 5-12); and,

a plurality of memory controlling units for performing a direct read/write operation for the sub-memories in response to the PCI command from the PCI interface controlling unit as the various interface circuitry (e.g., see col. 4, lines 50 to col. 5, line 47).

Allowable Subject Matter

20. Claim 13 reads over the art of record.

Response to Applicant's Remarks

21. Applicant's arguments with respect to claims 1-10 and 12-13 have been considered but are moot in view of the new ground(s) of rejection.

Action is made Final

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

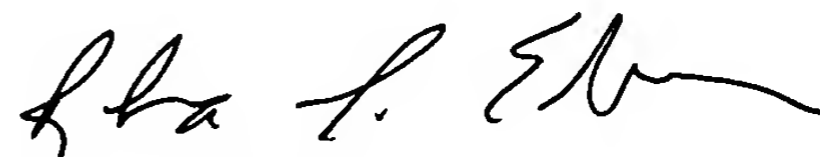
Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (703) 305-9706. The examiner can normally be reached on M-TH from 7:30am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor for AU 2187, Donald Sparks, can be reached for general questions concerning this application at (703) 308-1756. Additionally, the official fax phone number for the art unit is (703) 746-7239.

Art Unit: 2187

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center receptionist whose telephone number is (703) 305-3800/4700.



Reba I. Elmore
Primary Patent Examiner
Art Unit 2187

April 7, 2005